#### IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor:

Ludwig STEINHAUSER

Serial No.:

10/540,226

Filing Date:

December 27, 2005

For:

PROCESS FOR THE PRODUCTION OF HEAT EXCHANGER TUBES CONSISTING OF HALF-TUBES OR TUBES, FOR RECUPERATIVE

WSTE GAS HEAT EXCHANGERS

Art Unit:

1725

Examiner:

Kuang Y. LIN

Confirmation No.:

2990

Address to:

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Alexandria, VA 22313-1450

I hereby certify that this correspondence is being electronically transmitted to the United States Patent and Trademark Office via the Office electronic filing system on

Date: May 15, 2008

Signature: /Helen Tam/

# TRANSMITTAL OF APPEAL BRIEF PURSUANT TO 37 C.F.R. § 41.37

SIR:

Transmitted herewith for filing in the above-identified patent application is an Appeal Brief Pursuant to 37 C.F.R. § 41.37.

The Director is hereby authorized to charge payment of the 37 C.F.R. 41.20(b)(2) Appeal Brief fee of \$510.00 to the deposit account of Kenyon & Kenyon LLP, deposit account number 11-0600. Additionally, Applicant hereby requests a one-month extension of time for filing the Appeal Brief. A Notice of Appeal was filed and received by the United States Patent and Trademark Office on February 26, 2008 for which a two-month response period to file an Appeal Brief, expiring on April 26, 2008, was set. The one-month extended period for response expires on May 26, 2008. Please charge the 37 C.F.R. § 1.136(a) one-month extension fee of \$120.00 and any other fee that may be required to Deposit Account No. 11-0600.

> Respectfully submitted, KENYON & KENYON LLP

Dated: May 15, 2008

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# IN THE UNITED STATES PATENT AND TRADEMARK OFFICE BOARD OF PATENT APPEALS AND INTERFERENCES

In re Application of: : Examiner: Kuang Y. Lin

Ludwig STEINHAUSER

For: PROCESS FOR THE PRODUCTION OF

HEAT EXCHANGER TUBES

CONSISTING OF HALF-TUBES OR TUBES, FOR RECUPERATIVE WASTE

GAS HEAT EXCHANGERS

: Art Unit: 1793

Filed: December 27, 2005

Serial No.: 10/540,226

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Mail Stop Appeal Brief - Patents Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450 I hereby certify that this correspondence is being electronically transmitted to the United States Patent and Trademark Office via the Office electronic filing system on

Date: May 15, 2008 Signature: /Helen Tam/

#### APPEAL BRIEF PURSUANT TO 37 C.F.R. § 41.37

SIR:

On February 26, 2008, Appellants filed a Notice of Appeal from the last decision of the Examiner contained in the Final Office Action dated August 29, 2007 in the above-identified patent application.

In accordance with 37 C.F.R. § 41.37, this brief is submitted in support of the appeal of the final rejections of claims 9 to 21 and 26. For at least the reasons set forth below, the final rejections of claims 9 to 21 and 26 should be reversed.

### 1. REAL PARTY IN INTEREST

The real party in interest in the present appeal is MTU AERO ENGINES GMBH of Muenchen, in the Federal Republic of Germany, which is the assignee of the entire right, title and interest in and to the present application.

#### 2. RELATED APPEALS AND INTERFERENCES

There are no other prior or pending appeals, interferences or judicial proceedings known by the undersigned, or believed by the undersigned to be known to Appellants or the assignee, MTU AERO ENGINES GMBH, "which may be related to, directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal."

# 3. STATUS OF CLAIMS

Claims 1 to 8 and 22 to 25 have been canceled.

Claims 9 to 21 and 26 are pending.

Claims 9, 11 to 15, 17 to 21 and 26 stand rejected under 35 U.S.C. § 103(a) as unpatentable over the combination of Appellants' allegedly admitted prior art (AAPA) as set forth on pages 1 to 3 of the Specification, as well as either U.S. Patent No. 4,321,010 ("Wilkinson et al.") or U.S. Patent No. 4,589,478 ("Wunder") or U.S. Patent No. 5,600,950 ("Ottenschlaeger"), as well as U.S. Patent No. 5,299,619 ("Chandley et al.").

Claim 10 stands rejected under 35 U.S.C. § 103(a) as unpatentable over the combination of either Wilkinson et al., Wunder or Ottenschlaeger, and Chandley et al. and U.S. Patent No. 4,223,716 ("Ostrowski").

Claim 16 stands rejected under 35 U.S.C. § 103(a) as unpatentable over the combination of either Wilkinson et al., Wunder or Ottenschlaeger, and Chandley et al. and U.S. Patent No. 3,895,672 ("King, Jr. et al.").

A copy of the appealed claims, *i.e.*, claims 9 to 21 and 26, is attached hereto in the Claims Appendix.

#### 4. STATUS OF AMENDMENTS

In response to the Final Office Action dated August 29, 2007, Appellants filed a "Reply Under 37 C.F.R. § 1.116" ("the Reply") on December 17, 2007. The Reply presented no proposed amendments to the claims.

#### 5. SUMMARY OF CLAIMED SUBJECT MATTER

Independent claims 9 and 26 relates to processes for producing one of (a) half-tubes (24, 26) and (b) a tube (12, 14) of a metallic, high-temperature-resistant material with a plurality of openings (22) passing through a surface (20) of the one of (a) the half-tubes (24, 26) and (b) the tube (12, 14) for fabricating heat-exchanger tubes for a recuperative waste gas

heat exchanger (10). Specification, page 1, lines 2 to 7. The process includes forming a model, destroyable by heat, of each of the one of (a) the half-tubes (24, 26) and (b) the tube (12, 14); Specification, page 7, lines 2 to 6 and 8 to 12; forming a mold shell by finishing with a conventional gate system and immersion of the model in a ceramic coating composition and sanding with a cast shell ceramic material, alternating in several cycles; Specification, page 7, lines 14 to 18; melting-out of the model from the mold shell; Specification, page 7, lines 20 to 21; hardening the mold shell by firing; Specification, page 7, lines 21 to 23; producing a melt from the metallic, high-temperature-resistant material; Specification, page 4, lines 23 to 25; casting the melt in the mold shell one of (a) by applying a vacuum and (b) under excess pressure of an inert gas; Specification, page 7, lines 23 to 25; removing, after solidification of the melt, the one of (a) the half-tubes (24, 26) and (b) the tube (12, 14) from the mold by destroying the mold shell; cleaning and trimming the one of (a) the half-tubes (24, 26) and (b) the tube (12, 14) and removing a sprue; Specification, page 7, lines 2 to 6 and 34 to 35; and post-treating, as necessary, the openings (22) passing through the surface of the one of (a) the half-tubes (24, 26) and (b) the tube (12, 14) by one of (a) spark erosion and (b) blasting with an abrasive blasting agent; Specification, page 7, lines 2 to 6 and page 7, line 35 to page 8, line 5.

#### 6. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

A. Whether claims 9, 11 to 15, 17 to 21 and 26 are patentable under 35 U.S.C. § 103(a) over the combination of the AAPA, either Wilkinson et al., Wunder or Ottenschlaeger, and Chandley et al.

B. Whether claim 10 is patentable under 35 U.S.C. § 103(a) over the combination of either Wilkinson et al., Wunder or Ottenschlaeger, and Chandley et al. and Ostrowski.

C. Whether claim 16 is patentable under 35 U.S.C. § 103(a) over the combination of either Wilkinson et al., Wunder or Ottenschlaeger, and Chandley et al. and King, Jr. et al.

# 7. <u>ARGUMENTS</u>

A. Rejection of Claims 9, 11 to 15, 17 to 21 and 26 Under 35 U.S.C. § 103(a)

Claims 9, 11 to 15, 17 to 21 and 26 stand rejected under 35 U.S.C. § 103(a) as unpatentable over the combination of the AAPA, either Wilkinson et al., Wunder or Ottenschlaeger, and Chandley et al. It is respectfully submitted that the combination of the

AAPA, either Wilkinson et al., Wunder or Ottenschlaeger, and Chandley et al. does not render unpatentable claims 9, 11 to 15, 17 to 21 and 26 for at least the following reasons.

Regarding claim 9, neither the AAPA, nor Wilkinson et al., nor Wunder, nor Ottenschlaeger, nor Chandley et al. disclose or suggest the feature of post-treating, as necessary, openings passing through a surface of one of (a) half-tubes and (b) a tube by one of (a) spark erosion and (b) blasting with an abrasive blasting agent. On page 2, lines 30 to 31 of the Specification, the AAPA does describe electrodischarge machining (EDM) as a conventional method for producing openings in metals, but not as a conventional method for post-EDM treatment of the openings. To remove recast layers created by EDM, the AAPA merely states that a slow fine processing stage is necessary (see page 3, lines 10 to 14 of the Specification.

Regarding Wilkinson et al., as indicated in column 1, lines 8 to 39, the motivation of Wilkinson et al. for casting a blade or vane for a gas turbine engine is to avoid having to separately fabricate a cooling air entry tube for the blade or vane. As a result, Wilkinson et al. decided to cast a blade or vane and a cooling air entry tube unitarily. In addition, various advantages of unitary casting are given by Wilkinson et al. as follows:

There is no need for thickened parts of the shank 11, the shank 11 is shorter and the tube does not have to be inserted into the hollow aerofoil member 13 either through the root or the tip. There is therefore, much more freedom of aerodynamic design and the weight of the blade is considerably less than that of the FIGS. 1 and 2 structures. (Column 3, lines 2 to 8).

However, Wilkinson et al. do not deal with the problem of having to provide myriad openings in a forged part, to which openings tubes need to be soldered. As is apparent from Figures 1 and 2 of Wilkinson et al., cooling air entry tubes (14) contain apertures (9) for air flow, but no complaint is lodged as to any difficulty or great expense in putting these holes (9) into the prior-art cooling air entry tubes (14). Furthermore, the major disadvantages to electrodischarge machining (EDM) discussed in the present Specification, *e.g.*, the sheer number of holes (3496 for each 500 mm long, 62.5 mm radius half-tube (see page 2, lines 15 to 22 of the Specification), and the recast layers having to be removed prior to soldering lancets to the half-tubes (see page 3, lines 1 to 14 of the Specification), do not apply to Wilkinson et al. As is apparent from Fig. 2 of Wilkinson et al., the cross section of the cooling air entry tube only shows 15 holes. In addition, no tubes are being soldered to these holes (9), so assuming just for the sake of argument that the holes (9) of the prior art cooling air entry tube were formed by EDM, any recast layers would not necessarily have to be

removed for the correct functioning of the tube. Thus, Wilkinson et al. do not provide, either explicitly or implicitly, a motivation for casting heat exchanger tubes with holes.

Regarding Wunder, Wunder simply states that a shell body (10) of a tubular heat exchanger may be advantageously formed as an investment casting (see column 2, line 66 to column 3, line 1 of Wunder) without outwardly stating a motivation to do so. However, the probable motivation for Wunder to cast the shell body (10) is the number of parts of different sizes and orientations protruding from the shell body (10), such as the projecting bosses (26, 27), the housing for bypass valve (36), and the flange (12). In addition, similarly to the cooling air entry tube of Wilkinson et al., the shell body (10) of Wunder includes a inner wall for delimiting a bypass passage (32) from the rest of the interior of the shell body (10). However, the tubes or half-tubes of claim 9 of the present Application have no such variably oriented projections or inner walls, but only regularly spaced openings such as in the headers (46, 47) of Wunder. As Wunder makes no mention of investment casting, or no suggestion to investment cast, these headers (46, 47), and since the above-assumed motivation for investment casting the shell body (10) of Wunder is simply not applicable to the tubes or half-tubes of claim 9, it is respectfully submitted that Wunder does not provide a valid motivation for investment casting heat exchanger tubes with holes.

Regarding Ottenschlaeger, this reference indicates that segments (5) of an inner part (1) of an exhaust gas pipe can be cost-efficiently produced by casting, since casting allows the segments (5) to be provided already with projections (6) for screw holes (7) during production, and there is thus no need to stock and mount separate components during mounting and assembly of the exhaust gas pipe. Therefore, as in the case of Wilkinson et al., and most likely in the case of Wunder, the motivation of Ottenschlaeger to employ casting in producing the segments (5) is to reduce the number of necessary parts, as protruding parts such as projections (6) may be cast integrally with the segments (5). However, the tubes or half-tubes of claim 9 of the present Application do not have any projecting parts, but merely circumferential openings. Hence, the reason found in Ottenschlaeger for utilizing casting is not tenable for the tubes or half-tubes of claim 9. It should, though, be pointed out that each segment (5) of Ottenschlaeger does have an inlet opening (4), but, as in the case of the holes (9) in the cooling air entry tube of Wilkinson et al., Ottenschlaeger has a low number of openings in each segment (5) (namely, only one identified opening (4) per segment) and makes no mention of any advantage of casting in producing this opening (4).

In summary, there is no apparent reason, either explicit or implicit, for employing casting to produce the tubes or half-tubes of claim 9, and the Examiner does not

present a convincing argument for why, given the disclosure of the AAPA, Wilkinson et al., Wunder and Ottenschlaeger, simplifying the heat exchanger tube making process would motivate one skilled in the art for utilizing casting to produce the tubes or half-tubes of claim 9. The only place where a potential motivation is found is Appellants' own Specification, making plain that the present rejection is based on improper hindsight reasoning.

Accordingly, it is respectfully submitted that the combination of the AAPA, either Wilkinson et al., Wunder or Ottenschlaeger, and Chandley et al. does not render unpatentable claim 9 for at least these reasons.

Furthermore, the rejection as set forth in the Final Office Action fails establish a prima facie case of obviousness consistent with the Supreme Court's decision in KSR International Co. v. Teleflex Inc., 550 U.S. \_\_, 82 U.S.P.Q.2d 1385 (2007) or the guidelines set forth in M.P.E.P. § 2143. In this regard, the Supreme Court made plain that any rejection under 35 U.S.C. § 103 must be supported by the clear articulation of the reason(s) why the claimed subject matter would have been obvious and that the analysis supporting a rejection under 35 U.S.C. § 103 should be made explicit. The Office Actions to date have plainly failed in this regard. Furthermore, in the KSR decision, the Supreme Court, referring to the Federal Circuit's decision in In re Kahn, 441 F.3d 977, 988, 78 U.S.P.Q.2d 1329, 1336 (Fed. Cir. 2006), made clear that rejections based on 35 U.S.C. § 103(a) cannot be sustained by mere conclusory statements, that there must be some articulated reasoning with some rational underpinning to support a legal conclusion of obviousness, and that the analysis should be made explicit. The M.P.E.P. has made perfectly clear that "[w]ith regard to rejections under 35 U.S.C. 103, the examiner *must* provide evidence which *as a whole* shows that the legal determination sought to be proved (i.e., the reference teachings establish a prima facie case of obviousness) is more probable than not." M.P.E.P. § 2143 (emphasis added).

In the KSR decision, the Supreme Court identified a number of rationales that might support a conclusion of obviousness. Among the rationales identified by the Supreme Court are: (a) combining prior art elements according to known methods to yield predictable results; (b) simple substitution of one known element for another to obtain predictable results; (c) use of known technique to improve similar devices (methods, or products) in the same way; (d) applying a known technique to a known device (method, or product) ready for improvement to yield predictable results; (e) "Obvious to try" — choosing from a finite number of identified, predictable solutions, with a reasonable expectation of success; (f) known work in one field of endeavor may prompt variations of it for use in either the same field or a different one based on design incentives or other market forces if the variations are

predictable to one of ordinary skill in the art; and (g) some teaching, suggestion, or motivation in the prior art that would have led one of ordinary skill to modify the prior art reference or to combine prior art reference teachings to arrive at the claimed invention. None of the Office Actions to date have sufficiently identified what rationale is relied upon in connection with the present rejection and has failed to articulate the necessary findings to support any such rationale. Accordingly, it is plainly apparent that the Examiner has failed to establish a *prima facie* case of obviousness.

Claim 26 includes features analogous to those of claim 9, and is therefore allowable for at least the reasons set forth above in support of the patentability of claim 9.

As for claims 11 to 15 and 17 to 21, which ultimately depend from claim 9 and therefore include all of the features of claim 9, it is respectfully submitted that the combination of the AAPA, either Wilkinson et al., Wunder or Ottenschlaeger, and Chandley et al. does not render unpatentable these dependent claims for at least the reasons set forth above.

In view of all of the foregoing, it is respectfully submitted that the combination of the AAPA, either Wilkinson et al., Wunder or Ottenschlaeger, and Chandley et al. does not render unpatentable claims 9, 11 to 15, 17 to 21 and 26. Accordingly, reversal of this rejection is respectfully requested.

#### B. Rejection of Claim 10 Under 35 U.S.C. § 103(a)

Claim 10 stands rejected under 35 U.S.C. § 103(a) as unpatentable over the combination of either Wilkinson et al., Wunder or Ottenschlaeger, and Chandley et al. and Ostrowski. It is respectfully submitted that the combination of either Wilkinson et al., Wunder or Ottenschlaeger, and Chandley et al. and Ostrowski does not render unpatentable claim 10 for at least the following reasons.

Claim 10 depends from claim 9 and therefore includes all of the features of claim 9. As mentioned above, the combination of Wilkinson et al., Wunder, or Ottenschlaeger, and Chandley et al. does not disclose or suggest all of the features of claim 9. In addition, Ostrowski is not relied upon for disclosing or suggesting the features of claim 9 not disclosed or suggested by the combination of Wilkinson et al., Wunder, or Ottenschlaeger, and Chandley et al. Furthermore, none of the Office Actions to date sufficiently articulate a rationale to support the present rejection consistent with the Supreme Court's KSR decision. Accordingly, it is respectfully submitted that the combination of

Wilkinson et al., Wunder, or Ottenschlaeger, and Chandley et al. and Ostrowski does not render unpatentable claim 10 for at least these reasons.

In view of all of the foregoing, reversal of this rejection is respectfully requested.

# C. Rejection of Claim 16 Under 35 U.S.C. § 103(a)

Claim 16 stands rejected under 35 U.S.C. § 103(a) as unpatentable over the combination of either Wilkinson et al., Wunder or Ottenschlaeger, and Chandley et al. and King, Jr. et al. It is respectfully submitted that the combination of either Wilkinson et al., Wunder or Ottenschlaeger, and Chandley et al. and King, Jr. et al. does not render unpatentable claim 16 for at least the following reasons.

Claim 16 depends from claim 9 and therefore includes all of the features of claim 9. As mentioned above, the combination of Wilkinson et al., Wunder, or Ottenschlaeger, and Chandley et al. does not disclose or suggest all of the features of claim 9. In addition, King, Jr. et al. is not relied upon for disclosing or suggesting the features of claim 9 not disclosed or suggested by the combination of Wilkinson et al., Wunder, or Ottenschlaeger, and Chandley et al. Furthermore, none of the Office Actions to date sufficiently articulate a rationale to support the present rejection consistent with the Supreme Court's KSR decision. Accordingly, it is respectfully submitted that the combination of Wilkinson et al., Wunder, or Ottenschlaeger, and Chandley et al. and King, Jr. et al. does not render unpatentable claim 16 for at least these reasons.

In view of all of the foregoing, reversal of this rejection is respectfully requested.

# 8. <u>CLAIMS APPENDIX</u>

A "Claims Appendix" is attached hereto and appears on the three (3) pages numbered "Claims Appendix."

#### 9. EVIDENCE APPENDIX

No evidence has been submitted pursuant to 37 C.F.R. §§ 1.130, 1.131 or 1.132. No other evidence has been entered by the Examiner or relied upon by Appellants in the appeal. An "Evidence Appendix" is nevertheless attached hereto and appears on the one (1) page numbered "Evidence Appendix."

10. RELATED PROCEEDINGS APPENDIX

As indicated above in Section 2, above, "[t]here are no other prior or pending

appeals, interferences or judicial proceedings known by the undersigned, or believed by the

undersigned to be known to Appellants or the assignee, MTU AERO ENGINES GMBH,

'which may be related to, directly affect or be directly affected by or have a bearing on the

Board's decision in the pending appeal." As such, there are no "decisions rendered by a

court or the Board in any proceeding identified pursuant to [37 C.F.R. § 41.37(c)(1)(ii)]" to

be submitted. A "Related Proceedings Appendix" is nevertheless attached hereto and appears

on the one (1) page numbered "Related Proceedings Appendix."

11. CONCLUSION

For at least the reasons indicated above, Appellants respectfully submit that

the art of record does not disclose or suggest the subject matter as recited in the claims of the

above-identified application. Accordingly, it is respectfully submitted that the subject matter

as set forth in the claims of the present application is patentable.

In view of all of the foregoing, reversal of all of the rejections set forth in the

Final Office Action is therefore respectfully requested.

Respectfully submitted,

Dated: May 15, 2008

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#### **CLAIMS APPENDIX**

9. A process for producing one of (a) half-tubes and (b) a tube of a metallic, high-temperature-resistant material with a plurality of openings passing through a surface of the one of (a) the half-tubes and (b) the tube for fabricating heat-exchanger tubes for a recuperative waste gas heat exchanger, comprising:

forming a model, destroyable by heat, of each of the one of (a) the half-tubes and (b) the tube;

forming a mold shell by finishing with a conventional gate system and immersion of the model in a ceramic coating composition and sanding with a cast shell ceramic material, alternating in several cycles;

melting-out of the model from the mold shell;

hardening the mold shell by firing;

producing a melt from the metallic, high-temperature-resistant material;

casting the melt in the mold shell one of (a) by applying a vacuum and (b) under excess pressure of an inert gas;

removing, after solidification of the melt, the one of (a) the half-tubes and (b) the tube from the mold by destroying the mold shell;

cleaning and trimming the one of (a) the half-tubes and (b) the tube and removing a sprue; and

post-treating, as necessary, the openings passing through the surface of the one of (a) the half-tubes and (b) the tube by one of (a) spark erosion and (b) blasting with an abrasive blasting agent.

- 10. The process according to claim 9, wherein the model is melted out from the mold shell in the melting-out step in an autoclave.
- 11. The process according to claim 9, wherein the spark erosion includes electrodischarge machining.
- 12. The process according to claim 9, further comprising joining two half-tubes by one of (a) high-temperature soldering and (b) fusion welding to form a heat exchanger tube.
  - 13. The process according to claim 9, wherein a material of the model includes wax.

- 14. The process according to claim 9, wherein the casting of the melt in the mold shell is performed in an absence of reactive gases.
- 15. The process according to claim 9, wherein the casting of the melt in the mold shell is performed one of (a) *in vacuo* and (b) under an inert gas atmosphere.
- 16. The process according to claim 9, wherein the casting of the melt in the mold shell includes pouring the melt into a hot mold shell.
- 17. The process according to claim 9, wherein the high-temperature-resistant material includes a nickel-based alloy.
- 18. The process according to claim 9, wherein the high-temperature-resistant material includes IN 625.
  - 19. The process according to claim 9, wherein the openings are elliptical in shape.
- 20. The process according to claim 9, wherein a length of the one of (a) the half-tubes and (b) the tube is 500 mm, and a radius of the one of (a) the half-tubes and (b) the tube is 62.50 mm.
- 21. The process according to claim 9, wherein a length of the one of (a) the half-tubes and (b) the tube is 750 mm to 900 mm, and a radius of the one of (a) the half-tubes and (b) the tube is 37.50 mm.
- 26. A process for producing one of (a) half-tubes and (b) a tube of a metallic, high-temperature-resistant material with a plurality of openings passing through a surface of the one of (a) the half-tubes and (b) the tube for fabricating heat-exchanger tubes for a recuperative waste gas heat exchanger, comprising:
- (a) forming a model, destroyable by heat, of each of the one of (a) the half-tubes and (b) the tube;
- (b) after the step (a), forming a mold shell by finishing with a conventional gate system and immersion of the model in a ceramic coating composition and sanding with a cast shell ceramic material, alternating in several cycles;

- (c) after the step (b), melting-out of the model from the mold shell;
- (d) after the step (c), hardening the mold shell by firing;
- (e) after the step (d), producing a melt from the metallic, high-temperature-resistant material;
- (f) after the step (e), casting the melt in the mold shell one of (a) by applying a vacuum and (b) under excess pressure of an inert gas;
- (g) after the step (f), removing, after solidification of the melt, the one of (a) the halftubes and (b) the tube from the mold by destroying the mold shell;
- (h) after the step (g), cleaning and trimming the one of (a) the half-tubes and (b) the tube and removing a sprue; and
- (i) after the step (h), post-treating, as necessary, the openings passing through the surface of the one of (a) the half-tubes and (b) the tube by one of (a) spark erosion and (b) blasting with an abrasive blasting agent.

# **EVIDENCE APPENDIX**

No evidence has been submitted pursuant to 37 C.F.R. §§1.130, 1.131, or 1.132. No other evidence has been entered by the Examiner or relied upon by Appellants in the appeal.

# RELATED PROCEEDINGS APPENDIX

As indicated above in Section 2 of this Appeal Brief, "[t]here are no other prior or pending appeals, interferences or judicial proceedings known by the undersigned, or believed by the undersigned to be known to Appellants or the assignee, MTU AERO ENGINES GMBH, 'which may be related to, directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal." As such, there are no "decisions rendered by a court or the Board in any proceeding identified pursuant to [37 C.F.R. § 41.37(c)(1)(ii)]" to be submitted.